# 2003 Appendix A: Technical Notes Births and Deaths

## APPENDIX A: TECHNICAL NOTES

#### Vital Statistics Registration in Utah

Centralized vital statistics registration for the State of Utah was first established by act of the Utah Legislature in 1905. Sections 26-2-1 through 26-2-28, Utah Code Annotated, 1953 as amended, provide the current statutory authority<sup>1</sup>.

#### Section 26-2-3

# (1) The department shall:

- (a) provide offices properly equipped for the preservation of vital records made or received under this chapter;
- (b) establish a statewide vital records system for the registration, collection, preservation, amendment, and certification of vital records and other similar documents required by this chapter and activities related to them, including the tabulation, analysis, and publication of vital statistics;
- (c) prescribe forms for certificates, certification, reports, and other documents and records necessary to establish and maintain a statewide system of vital records;
- (d) prepare an annual compilation, analysis, and publication of statistics derived from vital records; and
- (e) appoint a state registrar to direct the statewide system of vital records.

#### (2) The department may:

- (a) divide the state from time to time into registration districts; and
- (b) appoint local registrars for registration districts who under the direction and supervision of the state registrar shall perform all duties required by them by this chapter and department rules.

Under Utah's statutes, full-time health officers of local health departments become ex officio local registrars and are responsible for the registration of certificates for all births and deaths that occur within their respective jurisdictions. Figure A-1 is a list of local health departments, registrars and deputy registrars. Each of the twelve local health departments reside over a local health district.

The local health districts (also referred to as "districts" in this report) and respective counties are Bear River (Box Elder, Cach and Rich), Central Utah (Juab, Millard, Piute, Sanpete, Sevier and Wayne), Davis, Salt Lake, Southeastern (Carbon, Emery, Grand and San Juan), Southwest (Beaver, Garfield, Iron, Kane and Washington), Summit, Tooele, Tri-county (Daggett, Duchesne, and Uintah), Utah, Wasatch, and Weber-Morgan (Morgan and Weber). Figure A-2 is a Utah map which shows the county boundaries.

#### Source of Data

Vital statistics certificates filed with the state Office of Vital Records and Statistics are the primary source of data presented within this report. These records include certificates of live birth, death and fetal death. Source data of official population estimates for the state are provided by the Govenor's Office of Planning and Budget.

## Forms for certificates

Utah's certificates of live birth, death and fetal death are revised periodically to include items on the recommended national "Standard Certificates," with modifications and additions to meet particular needs in Utah. Figures A-3 through A-6 show current copies of the Certificate of Live Birth, Certificate of Death, and Fetal Death Certificate.

#### Quality and Limitations of Data

Limitations of the data must be recognized before valid interpretation is possible. For vital statistics data, these limitations are related to the difficulties in reporting and classifying information and to some under-registration of events. It is necessary to exercise particular caution when evaluating vital statistics trend data, since medical concepts, code definitions and method of assigning causes of death have changed over the years. There was a major change in the death coding system for data year 1999 when ICD-10 was implemented.

## Figure A-1

# Local Health Districts, Registrars and Deputy Registrars October 2004

**Bear River District** 655 East 1300 North Logan, Utah 84341

Registrar: John C. Bailey Deputy Registrar: Leslie Olson

Central Utah District 70 Westview Drive Richfield, Utah 84701

Registrar: Robert Resendes Deputy Registrar: Dixie Sorensen

**Davis County** 50 East State Street Farmington, Utah 84025-0618

Registrar: Lewis Garrett Deputy Registrar: Karla Smith

Salt Lake Valley Health Dept. 610 South 200 East Salt Lake City, Utah 84111

Registrar: Patty Pavey

Deputy Registrar: Ellen Freeman

Southeast Utah District 28 South 100 East P.O. Box 800 Price, Utah 84501

Registrar: David Cunningham Deputy Registrar: Jeanne Thompson

Southwest Utah Public Health 168 North 100 East St. George, Utah 84770

Registrar: Gary Edwards

Deputy Registrar: Sandra Stubblefield

**Summit County Public Health** 85 North 50 East Coalville, Utah 84017

Registrar: Steve Jenkins Deputy Registrar: RaNae Crittenden

**Tooele County** 151 North Main Tooele, Utah 84074

Registrar: Myron Bateman Deputy Registrar: Nikki Scow

**Tri County District** 147 East Main Vernal, Utah 84078

Registrar: Joseph Shaffer Deputy Registrar: Crystal Slaugh

**Utah County** 151 South University Avenue Provo, Utah 84601

Registrar: Joseph K. Miner Deputy Registrar: Ruth Nelson

Wasatch City/County 55 South 500 East Heber City, Utah 84032-1918

Registrar: Phil D. Wright Deputy Registrar: Janet Norton

Weber/Morgan District 2570 Grant Avenue Ogden, Utah 84401

Registrar: Gary House Deputy Registrar: Lynette Satterfield

Figure A-2

MAP OF UTAH WITH COUNTY BORDERS

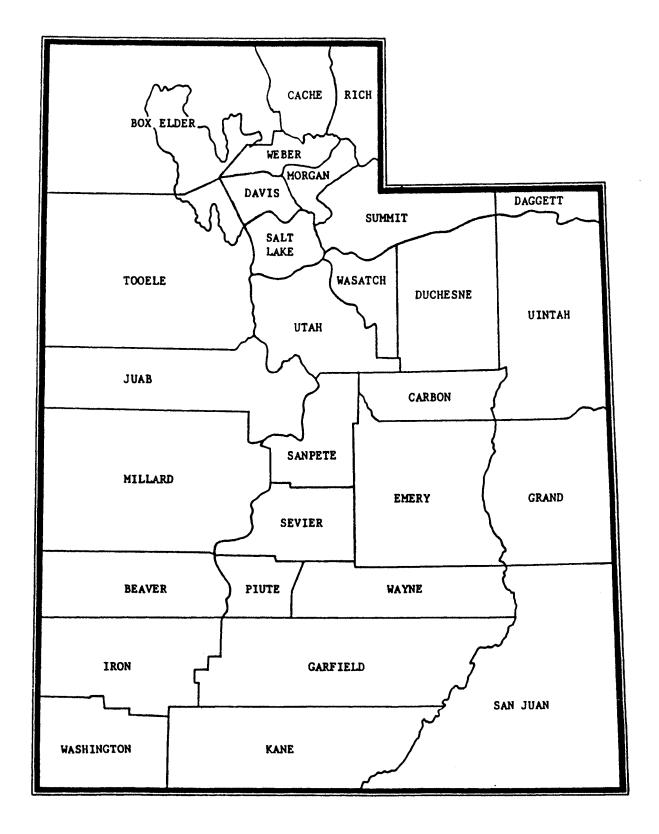


Figure A-3

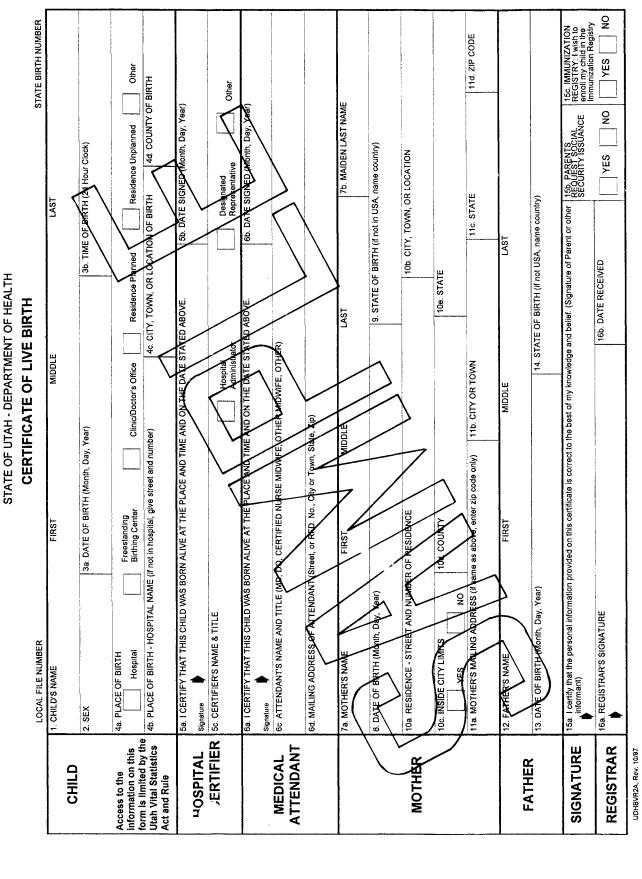


Figure A-4

2 🗆 NO 2 🗆 NO ssophageal fistula/esophageal etresia ☐ 22 Other chromosomal anomalies {specify}. 1 TYES dGIVEN? 7 Other circulatory anomalies (specify) 51. CONGENITAL ANOMALIES OF CHIL. (Check all that apply) IF YES, DATE GIVEN (Month, Day, Year) B Respiratory anomalies {specify}\_ 1 Polydactyly/Syndactyly/Adactyly ☐ 6 Heart malformations {specify} 12 Other gastrointestinal (specify 11 Quephalocele/Gastroschisis 47. HEPATITIS B VACCINATION 20 Other musculoskeletal/ir 2 Spina Bifida/Meningocel U 19 Diaphragmatic hemia 46. IS INFANT DECEASED 21 Down's syndrome 23 Multiple anomalie 24 Other {specify} 3 Hydrocephalus ☐ 4 Microcephatus 2 Malformed ge VIS Cleft Jipaps ☐ 18 Club foot 25 Unknown 10-10 Trached B Reda CONFIDENTIAL INFORMATION FOR MEDICAL AND HEALTH USE ONLY (UCA 26-2 AND 26-25) 40. IF NOT SINGLE, BIRTH BORN 1ST, 2NB, 3RD 5 minutes 19. THIS BIRTH SINGLE, TWIN, TRIPLET, ETC. It is the responsibility of the attendant to complete <u>all</u> of the following items. TIMATE OF GESTATI H. ABNORMAL CONDITIONS OF THE NEWBORN (Check all that apply) ☐ 6. Hyaline membrane disease/RDS 7. Meconium aspiration syndrome B. Assisted Ventilation <30 mm. 9. Assisted ventilation > 30 min. 11. Neonatal substance abuse ser of weeks 4 1.4 (Hct <39/Hgb<13) 3.Fetal alcohol syndrome 4.Neonatal meningitis 5.Congenital infection 12. Other (specify) 2.Birth injury ☐10. Seizures OO. None 11. CLINIC COMPLETION INSTRUCTIONS 32. NO. OF PRE -NATAL VISITS OTHER TERMINATIONS (Spontaneous and induced a any time after conception) 30. DATE OF LAST NORMAL MENSES (Month, Day, Year) 33. MOTHER TRANSFERRED PRIOR TO DELIVERY? If Yes, enter name and State of facility transferred from: 34. PREGNANCY HISTORY (Complete each section) ecify) Tocolysis O O None None 34c. DATE OF LAST LIVE BIRTH 34e. DATE (Month, Day, Year) 31. MONTH OF PREGNANCY PRENATAL CARE BEGAN 1ST, 2ND, 3RD, ETC. Ö 34a. Now Living 34b. Now Dead | 6 Other excessive bleading | 7 Seizures during labor | 7 Seizures during labor | 8 Precipious labor (-3 hours) | 9 Precipious labor (-3 hours) | 10 bysfunctional labor | 11 BreachMalpresentation | 12 Cephalappelvic disprroportion | 13 Cord prolapse | 14 Ansethetic complications | 15 Feat distress | 16 Other (16 Other (specify)) | 17 Unknown LIVE BIRTHS (Do not include this child) None e rupture of me 4 Aberptio placenta (>100 F. 5 Placenta previa 35 ANTEPARTUM PR □ None ☐ 1 Amnioca 38. 3 IBD SOCIAL SECURITY NUMBER 3 
Puerto Rican
4 
Other Hispanic
(Specity) 28a. FATHER'S OCCUPATION WORKED LAST YEAR FATHER'S RACE - American Indian (Tribe may be entered), Black, White Japanese, etc. (Specify below) 286. KIND OF INDUSTRY OF BUSINESS 28c. EDUCATION (specify only highest grade completed) Elementary or secondary (0 through 12), College through 16 or 17+) | Of gheening part 2014g9 11g0 | Oz Ografiac Arest | Oz Ografiac | Oz Ografiac Arest | Oz Ografiac Arest | Oz Ografiac Arest | Oz Ografiac | Oz Ografiac Arest | Oz Ografiac Arest | Oz Ografiac | Oz Ografi 26. FATHER OF HISPANIC ORIGIN Has a relative of the baby had a hearing loss that existed since childhood? (Per Hereditary loss) 2 🗆 NO 29. MEDICAL PRIST PRECENTIVEY YES 1 ☐ Mexican Cuban 1 TYES EDUCATION (specify only highest grade completed) Elementary or secondary (0 through 12), College (13 through 16 or 17+) MOTHER'S OCCUPATION WORKED LAST YEAR a. MOTHER'S NAME (First, Middle, Last) 8a. FATHER'S NAME (First, Middle, Last 22b. KIND OF INDUSTRY OF BUSINESS 4 Other Hispanic (Specify) MOTHER'S RACE - American Indian (Tribe may be entered), Black, White Japanese, etc. (Specify below) 2 NO 3 🗌 Puerto Rican Veight gained or lost during pregnancy OTHER RISK FACTORS FOR THI Average number of Cigarettes per day MOTHER OF HISPANIC ORIGIN 24. MOTHER'S HEIGHT AND WEIGH verage number of drinks per week Alcohol Use during Pregnancy Tobacco Use during Pregnancy Neight Before Pregnancy YES 1 1 TYES PREGNANCY 1 Mexican 2 Cuban Mother's height: 2nd TRI\_ 2nd TRI\_ 1st TRI 3rd TRI 3rd TRI

# Figure A-5

|                     | Access to information this form is limited until the Vital Statistics A and Rules. | STATE OF UTAH - DEPARTMENT OF HEALTH  CERTIFICATE OF DEATH  STATE FILE NUMBER  STATE FILE NUMBER   |
|---------------------|--|--|
|                     |  | 1. NAME OF DECEDENT FIRST MIDDLE LAST 2. SEX 3a. DATE OF DEATH (Mo., Day, Yr.) 3b. TIME OF DEATH (24 hr. clock)  |
|                     |  | 4. DATE OF BIRTH (Mo., Day, Yr.)  5. AGE- Last Birthday   IF UNDER 1 YEAR   IF UNDER 24 HRS.   6. BIRTHPLACE (City & State or Foreign Country)   7. SOCIAL SECURITY NUMBER   Months   Days   Hours   Minutes   |
|                     | ,  | Ba. PLACE HOSPITAL (status codes for Hospital only): ALL OTHER LOCATIONS: OF DEATH (check only one)  1. Inpatient  5. Nursing Home 6. Residence (any) 2. ER/Outpatient 3. DOA 7. Other (specify)   |
|                     |  | 8c. CITY, TOWN, OR LOCATION OF DEATH 9. SURVIVING SPOUSE (if wife, give maiden name)   |
|                     | DECEDENT   | 10. WAS DECEDENT EVER IN THE U.S. ARMED FORCES?  11. Never plarried 3. Widowed during most of working life. Do NOT enter retired)  12b. KIND OF BUSINESS OR INDUSTRY during most of working life. Do NOT enter retired)  13c. RESIDENCE - STREET AND NUMBER  13d. STATE  |
|                     |  | 13e. INSIDE CITY St. ZIP CODE 1. WAS DECEDENT OF HISPANIC ORIGIN? 1. Yes 2. No Indian (tribe may be entered), Japanese, etc. (Specify) 1. Yes 2. No 2. No 2. No 3. Puerto Rican 4. Other Specify) 1. Other Specify 1. Mexican 4. Other Specify) 1. Was not provided in the provided of the provided in the pro |
|                     | PARENTS  | 17. FATHER'S NAME (First, Middle, Last) 18. MAIDEN NAME OF MOTHER (First, Middle, Last)  |
|                     | INFORMANT  | 19. NAME, RELATIONSHIP AND MAILING ADDRESS OF INFORMANT  |
| ACK INK             | DISPOSITION  | 20. METHOD OF DISPOSITION 21a. DATE OF DISPOSITION 21b. PLACE OF DISPOSITION (name of cemetery, crematory, per difference place)  1. Entombment 2. Donation 3. Other 4. Burial 5. Cremation 6. Remove 22. SIGNATURE OF FUNERAL SERVICE LICENSEE 25. LICENSEE NUMBER 24. FUNERAL HOME (Name and address)  |
| ENTB                | <u></u>  | 25. DATE DECEASED WAS LAST ATTENDED BY CERTIFYING PHYSICIAN  26. If not certified by medical examiner, was death reported to M.E.?  1. Yes 2. No HR. MO DAY YEAR   |
| USE PERMANENT BLACK | CERTIFIER  | 27a. CERTIFIER  1. CERTIFYING PHYSICIAN: To the best of my knowledge, death occurred at the time, date, and place, and due to the cause(s) and manner as stated.  2. MEDICAL EXAMINER/LAW ENFORCEMENT OFFICIAL: On the basis of examination and/or investigation in my opinion, death occurred at the time, date, place and due to the cause(s) and manner as stated.  |
| USE P               |  | 27b. SIGNATURE AND TITLE OF CERTIFIER  27c. (CENSE NUMBER  27d. DATE SIGNED (Month, Day, Year)  28. NAME AND ADDRESS OF PERSON WHO CERTIFIED THE CAUSE OF DEATH (Item 3)/(Type/Pright)   |
|                     | REGISTRAR  | 29. REGISTRAR'S SIGNATURE  30a. DATE REGISTRAR NOTIFIED OF DEATH 30a. DATE RILED (Mo., Day, Yr.) (Mo., Day, Yr.)   |
|                     |  | 31. PART I. ENTER THE DISEASES, INJURIES, OR COMPLICATIONS THAT CAUSED THE DEATH. DO NOT ENTER THE MODE OR DYING, SUCH AS CARDIAC Approximate Interval Between Onset and   |
| !                   |  | IMMEDIATE CAUSE (Final disease or condition resulting in death)  Death.  Death.  Death.  |
|                     |  | Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE. (disease or injury that initiated events resulting in death) LAST  DUE TO (OR AS A CONSEQUENCE OF):  DUE TO (OR AS A CONSEQUENCE OF):  |
|                     |  | PART II. Other Significant Conditions contributing to death but not resulting in the underlying cause given in Part I  1. Probably contributed to the cause of death.  2. Was the underlying cause of death.  2. Was the underlying cause of death.  33a. WAS AN AUTOPSY BERFORMED?  PERFORMED?  PERFORMED?  PERFORMED?  PRIOR TO COMPLETION  OF CAUSE OF DEATH?   |
|                     |  | 35. Did not contribute to the cause of death.  4. Is unknown in relation to the cause of death.  35a. DATE OF INJURY (Mo., Day, Yr.) 35b. TIME OF INJURY 35c. INJURY AT WORK? 35d. PLACE OF INJURY - At home, farm, street, factory, office, building, etc. (specify)  |
|                     |  | 1. Natural 2. Accident 3. Suicide 4. Homicide 3. Suicide 4. Homicide 3. Suicide 7. Yes 1. Yes 2. No 3. Suicide 8. Yes 1. Ye |
|                     | UDH-BVR<br>Form 12,<br>Rev. 12/98  | 55. DESCRIBE HOW INJURY OCCURRED (enter sequence of events which resulted in injury, NATURE OF INJURY should be entered in item 31) Purposely or Accidently  |

# Figure A-6

| information on this form<br>Confidential under the '<br>Statistics Act and Rules | FE   | TAL DEATH CE   | RTIFICA   |   | WW.DED   |  |  |  |
|--|--|--|---|---|--|--|--|--|
| <del>1100</del>  | LOCAL FILE NUMBER  1 NAME OF FETUS FIRST M   | DDLE LAST  | 2 SEX   | STATE FILE I  | OF DELIVERY (Mo  | Day. Yr)   | 3b. TIME OF DELIVERY<br>(24 hr. clock)                             |  |
|  | 4 PLACE OF DELIVERY - HOSPITAL NAME (if not in hos   | spital, give street & address)   | 5. CITY, TOWN OR LOCATION OF DE   |   | ELIVERY  | E  | COUNTY OF DELIVERY   |  |
|  | 7a MOTHER'S NAME (First, Middle, Last)   |  | 76. MAIDEN LA   | IST NAME  | 8. N   | 8. MOTHER'S DATE OF BIRTH<br>(Month, Day, Year)  |  |  |
| PARENTS  | 9a RESIDENCE-STATE 9b COUNTY   | 9c CITY, COUNTY, OR LOCAT  | ION   |   | 9d. STREET AND NUMBER  |  |  |  |
|  | 9e. INSIDE CITY LIMITS? 9f ZIP CODE  | 10 FATHER'S NAME (First, Mile  | idie, Last)   | <del></del>   |  | 1. FATHE   | ER'S DATE OF BIRTH   |  |
|  | Yes No 12. OF HISPANIC ORIGIN?   | 13 FACE - American Indian (Trib<br>entered) Black, White, Japan  | e may be 14a.   | MOTHER OCC  | UPATION WORKE  |  |  |  |
|  | 12a.Mother: Yes No 12b Father: Yes No 15g (Specify)  If yes indicate If yes indicate 13a MOTHER  |  |   | 14c. MOTHER KIND OF INDUSTRY OR BUSINESS 146 FATHER   |  |  |  |  |
|  |  | 13b FATHER EDUCA   |   | UCATION (Specify  | TION (Specify only highest grade con<br>gh 12) or College (13 through 16 or 1  |  | d) Elementary or Secondar  |  |
|  | Other Hispanic (Specify) Other Hispanic (Specif  | panic (Specify)  |   | 15a. MOTHER  17. MOTHER MARRIED? (At delivery, conception or any time between) (Yes or No)  |  | 15b. FATHER  |  |  |
|  | LIVE BIRTHS OTHER  | TERMINATIONS (Spontaneous and at any time after conception)  | 19. MONTH C   | F PREGNANCY PR  | ENATAL CARE 2  |  | AN (Month, Day, Year)  ATAL VISITS-Total number                    |  |
|  |  | not include this fetus)<br>imber   | BEGAN-F   | irst, Second, Third,<br>OF FETUS (Grams)  | etc. (Specify)   | none,  | so state)  CAL ESTIMATE OF   |  |
| ¥  | None One   | Nope   |   |   |  | GESTA  | ATION (Weeks)  T SINGLE BIRTH-Born Firs                            |  |
| <u>z</u><br>X  |  | onth, Yesy   | (Specify  | ITY-Single, Twin, Tri<br>)  | piet, etc. 2   | Secor  | nd, Third, etc. (Specify)  |  |
| BLAC   | 24. PART I. Febal or maternal condition directly   | EDIATE CAUSE   | Enter onl   | y one cause per line  | for a, b, and c.   | 1  | Specify Fetal or Materna   |  |
| CAUSE OF DEATH   | / / /  | TO OR AS A CONSEQUENCE OF)   |   |   |  |  | Specify Fetal or Materna   |  |
| PERMANENT BLACK INK HAPAD SOND SOND SOND SOND SOND SOND SOND SON                 | Fetal and/or maternal conditions, if any, giving rise to the immediate cause(s) stating the DIVE underlying cause last.  | TO (OR AS A CONSEQUENCE OF)  |   |   |  | +  | Specify Fetal or Materna   |  |
| USE PE   | PART II. Other significant conditions of fatus or prother con  | tribution to letal death and not resultin  | g in the underlying   | ause given in Part i  | 25.  | FETUS  | DIED BEFORE LABOR,<br>G LABOR OR DELIVERY,<br>WN (Specify)         |  |
| <u> </u>   | \  |  | $/\!\!/\!$                                      |   |  |  |  |  |
| ATTENDANTS<br>'SIGNATURE   | 26s. I CERTIFY that the fetus identified above was delivered at<br>did not show evidence of life, and to the best of my knowledge did  | the place and time and on the date states<br>ad from the cause stated.   | Pabove and  | or Other Pen  | - Name, Title (MD, I<br>son) AND LICENSE   | NO. (Type  | ed Nurse Midwife, Other Midwi<br>e or pfint)                       |  |
| <del></del>  | 27. NAME AND LOCATION OF INSTITUTION IN CHARGE   | OF DISPOSITION (Haspital, Labora   | toly, Funeral Home  | 28. PE  | RSON RESPONSI  | BLE FOR  | DISPOSITION  |  |
| DISPOSITION  |  | ~///   |   |   |  |  |  |  |
| OF<br>FETUS  | 29. PLACE OF DISPOSITION (Hospital, Cemetery) 30.  | DATE OF DISPOSITION (Mo , Day,   | (r.) 31. REGISTRA   | AR'S SIGNATURE  |  | $\overline{}$  | 32. DATE filed by registre<br>(Mo., Day, Yr.)                      |  |
|  | 33a. MEDIGAL RISK FACTORS FOR THIS PREGNANCY   | 34, ANTEPARTUM PROCEDURES  | DURING THIS   | 37. CONGE   | NITAL ANOMALES   | OK FET   | US Check all that apply)   |  |
|  | (Check all that apply)   | PREGNANCY (Check all that  | (PPIY)  |   | Anencephalus   |  |  |  |
|  | 10 01 Anamia (Hat = 20/Hab = 10)   |  | / /   | □ º1/   |  |  | \ /  |  |
|  | ☐ 01 Anemia (Hct. < 30/Hgb. < 10) ☐ 02 Cardiac Disease   | 01 Amniocentesis 02 Electronic fetal monitor   | ing   |   |  | ngocele  | $\checkmark$   |  |
|  | 02 Cardiac Disease 03 Acute or chronic lung disease  | 02 Electronic fetal monitor 03 Induction of labor  | ing   |   | Spina bifida / Meni<br>vydracephalus<br>Microcephalus  | >  |  |  |
|  | 02 Cardiac Disease     03 Acute or chronic lung disease     21 Pre-axisting diabetes (Type I or II)  | 02 Electronic fetal monitor 03 Induction of labor 04 Stimulation of labor  | ing   | 03  | Spina bifida / Meni<br>Nydracephalus   | >  | m anomalies  |  |
|  | C2 Cardiac D'sease     O3 Acute or chronic lung disease     21 Pre-existing diabetes (Type I or II)     22 Gestational diabetes  | 02 Electronic fetal monitor     03 Induction of labor     04 Stimulation of labor  | ing   | 03  | Spina bifids / Meni<br>Nydrocephalus<br>Microcephalus<br>Other central pervo   | ous system   | m anomalies  |  |
| MEDICAL  | 02 Cardiac Disease     03 Acute or chronic lung disease     21 Pre-existing diabetes (Type I or II)     22 Gestational diabetes     05 Gental herpes   | 02 Electronic fetal monitor     03 Induction of labor     04 Stimulation of labor     05 Tocolysis     06 Ultrasound     00 None   | ing   |   | Spina bifida / Meni vydracephalus Microcephalus Other central pervo (Specify) Heart Malformation (Specify)   | bus system   | m anomalies  |  |
| MEDICAL<br>AND HEALTH  | 02 Cardiac Disease     03 Acute or chronic lung disease     21 Pre-existing diabetes (Type I or II)     22 Gestational diabetes     05 Genital herpes     66 Hemoglobinopathy  | 02 Electronic fetal monitor  |   | 03  | Spina bifida / Meni nydracephalus Microcephalus Other central perve (Specify) Heart Malformation (Specify) Other circulatory as  | bus system   | m anomalies  |  |
|  | 02 Cardiac Disease     03 Acute or chronic lung disease     21 Pre-axisting diabetes (Type I or II)     22 Gestational diabetes     05 Genital herpes     06 Hemoglobinopathy     07 Polynydramnios / Oligohydramnios  | 02 Electronic fetal monitor     03 Induction of labor     04 Stimulation of labor     05 Tocolysis     06 Uttrasound     00 None     07 Other (Specify)     35. METHOD OF DELIVERY (Che  |   | 05  | Spina bifida / Meni vydracephalus Microcephalus Other central pervo (Specify) Heart Malformation (Specify)   | ous system   | m anomalies  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease     If Pre-axisting disease (Type I or II)     Saute or chronic lung disease     If Pre-axisting disease (Type I or II)     Saute or chronic library (Type I or II)  | 02 Electronic fetal monitor  | ick all that apply)   | 000   | Spina bilida / Meni hydracephalus Microcephalus Other central orvo (Specify) Heart Malformation Specify) Other circulatory as  | ous system   | m anomalies  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease     The Pre-axisting diabetes (Type I or II)     Seatility of diabetes     Seatility of diabe    | 02 Electronic fetal monitor  | ick all that apply)   |   | Spina bilida Meni yoncephalus Microcephalus Other central erve (Specify) Heart Malformatior Specify) Othy circulatory ai Specify Specify Respiratory anoma (Specify) Rectal atresia / ste  | ous system<br>ns<br>nomálies<br>ulies  |  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease lung disease     Saute or chronic lung disease lung     | 02 Electronic fetal monitor  | ick all that apply)   | 000   | Spina bilida Meni yon cephalus Microcetyalus Other central erve (Specify) Heart Malformatior Specify) Chris circulatory ai (Specify) Respiratory anoma (Specify) Rectal atresia / ste Tracheo-esophage   | bous systements system | / esophageal atresia   |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease     The Pre-axisting diabetes (Type I or II)     Seatility of diabetes     Seatility of diabe    | 02 Electronic fetal monitor   03 Induction of labor   04 Stimulation of labor   05 Tocolysis   06 Uttrascund   00 None   07 Other (Specify)   35. METHOD OF DELIVERY (Che   01 Vaginal   02 Vaginal birth after prev   03 Primary C-section   04 Repeat C-section   05 Forceps   | ick all that apply)   | 000   | Spina bilida Meni yoʻne ophalus Microcephalus Microcephalus Olher central orvo (Specify) Heart Malformation Specify) Respiratory anoma (Specify) Respiratory anoma (Specify) Rectal attesia / ste Tracheo-esophage Omphalocele / Gas   | ous systements nomalies nosis al fistula   | / esophageal atresia<br>s  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease     Saute or chronic line lung disease     Saute or chronic lung disease     Saute or chronic lung disease     Saute or chronic lung disease lung diseas    | 02 Electronic fetal monitor  | ock all that apply) ous C-section   | 000 | Spina bilida Meni yon cephalus Microcetyalus Other central erve (Specify) Heart Malformatior Specify) Chris circulatory ai (Specify) Respiratory anoma (Specify) Rectal atresia / ste Tracheo-esophage   | ous systements nomalies nosis al fistula   | / esophageal atresia<br>s  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease lun    | 02 Electronic fetal monitor  | ous C-section   | 000000000000000000000000000000000000000   | Spina bilida Meni hydracephalus Meni hydracephalus Other central envisors (Specify) Heart Malformation Specify) — Specify (Specify) — Specify) — Specify) — Specify Heat altresia / ste Tracheo-esophage Omphalocote / Gas Other gastrointestic (Specify) Malformed genitalia Malformed genitalia  | nomalies nosis al fistula stroschisis  | / esophageal atresia<br>s  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease     Residence of chronic lung disease     Residence of chronic lung disease     Residence of cardial disease (Type I or II)     See Gestational diseases     See Ges    | 02 Electronic fetal monitor  | ous C-section   | 0   | Spina bilida Meni  hydracephalus  Microcephalus  Other central envi  (Specify)  - Heart Malformation  Specify)  - Other circulatory at  Specify)  - Respiratory anoma  (Specify)  - Respiratory anoma  (Specify)  - Rectal attesis / stell  Trachee-esophage  Omphalocele / Gas  Other gastrointestic  (Specify)  - Malformed genitalis  - Specify)  - Malformed genitalis  - Specify  - Malformed genitalis  - Specify  - Malformed genitalis  - Specify  - Specify  - Malformed genitalis  - Specify  - Specify  - Specify  - Malformed genitalis  - Specify  - Spec | nomalies nomalies nosis al fistula stroschisis anal anoma  | / esophageal atresia<br>s  |  |
| AND HEALTH   | Cardiac Disease     Saute or chronic lung disease     If Pre-axisting disbetes (Type I or II)     Saute or chronic lung disease     If Pre-axisting disbetes (Type I or II)     Saute of saute or chronic or cardial herpes     Saute of saute or cardial herpes     Hypertension, chronic     Saute or cardial herpes     Saute or cardial h    | 02 Electronic fetal monitor   03 Induction of labor   04 Stimulation of labor   05 Tocolysis   06 Ultrasound   00 None   07 Other (Specify)         05 METHOD OF DELIVERY (Chell)       01 Vaginal               02 Vaginal birth after prev       03 Primary C-section           04 Repost C-section           05 Forceps                   06 Vacuum                     07 Hysterotomy / Hysterec       36 COMPLICATIONS OF LABOR (Cheek all final apply)   | ous C-section  ctomy  AND/OR DELIVERY  C.)  | 0   | Spina bilida. Meni hydracephalus wicrocephalus other central every common service of the central every c | nomalies nomalies nosis al fistula stroschisis anal anoma  | / esophageal atresia<br>s  |  |
| AND HEALTH   | Cardiac Disease     3 Acute or chronic lung disease     21 Pre-axisting diabetes (Type I or II)     22 Gesalional diabetes     65 Genital herpes     66 Hemoglobinopathy     7 Polyrydramnios / Oligohydramnios     68 Hypertension, chronic     69 Hypertension, pregnancy-associated     10 Eclampaia     11 Incompetent cervix     12 Previous infant 4000 + grams     13 Previous protorm infant     14 Pravious small-for gestational-age infant     15 Renal disease   | 02 Electronic fetal monitor  | cus C-section  clomy  AND/OR DELIVERY  C.)  heavy   | 000 | Spina bilida Meni  hydracephalus  Microcephalus  Other central envi  (Specify)  - Heart Malformation  Specify)  - Other circulatory at  Specify)  - Respiratory anoma  (Specify)  - Respiratory anoma  (Specify)  - Rectal attesis / stell  Trachee-esophage  Omphalocele / Gas  Other gastrointestic  (Specify)  - Malformed genitalis  - Specify)  - Malformed genitalis  - Specify  - Malformed genitalis  - Specify  - Malformed genitalis  - Specify  - Specify  - Malformed genitalis  - Specify  - Specify  - Specify  - Malformed genitalis  - Specify  - Spec | nomalies nomalies nosis al fistula stroschisis anal anoma  | / esophageal atresia<br>s  |  |
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| AND HEALTH   | 02 Cardiac Disease   03 Acute or chronic lung disease   21 Pre-axisting disease   22 Pre-axisting disease   23 Pre-axisting disease   24 Pre-axisting disease   25 Gental herpes   05 Gental herpes   06 Hemogobinopathy   07 Polyhydramnios / Oligohydramnios   08 Hypartension, chronic   09 Hypartension, chronic   09 Hypartension, chronic   10 Eclampsia   11 Incompetent cervix   12 Previous infant 4000 + grams   13 Previous mall-lor gestational-age infant   15 Renal disease   16 Rh sensitization   17 Rubella   18 Uterine bleeding   | 02 Electronic fetal monitor  | cus C-section  clomy  AND/OR DELIVERY  C.)  heavy  ernbrane (> 12hour   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   | Spina bilida Meni hydracephalus Meni hydracephalus Other central envi (Specify) — Heart Malformation Specify) — Grand circulatory at Specify) — Specify) — Specify — S | bous systems and the systems are systems and systems and systems and anomalies are systems are systems.  | / esophageal atrosia<br>5<br>alies<br>actyly                       |  |
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| AND HEALTH   | 02 Cardiac Disease   03 Acute or chronic lung disease   21 Pre-axisting disease   22 Pre-axisting disease   21 Pre-axisting disease   22 Pre-axisting disease   22 Pre-axisting disease   23 Pre-axisting disease   24 Pre-axisting disease   25 Pre-axisting disease   26 Pre-axisting disease   26 Pre-axisting disease   27 Pre-axisting disease   28 Pre-axis  | 02 Electronic fetal monitor  | ous C-section  storny  AND/OR DELIVERY  C.) heavy embrane (> 12hour  ng  ours) hours) on                        |   | Spina bilida Meni hydracephalus Meni hydracephalus Other central envisors (Specify) — Heart Malformation Specify) — Multiple anomalies — Multiple anomalies   | bous systems nomalies nosis al fistula astroschisti stroschisti a astroschisti a  | / esophageal atresia<br>s<br>alies<br>actyly<br>gumental anomalies |  |
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The completeness of registration for births was last tested at the state level in conjunction with the 1950 U.S. Census of the Population and was found to be 98.7 percent complete at that time. At the present time, more than 99 percent of all Utah's resident births occur in hospitals. This fact, coupled with information from sample studies, indicates that the completeness of birth certificate registration now exceeds 99 percent.

The registration of fetal deaths at 20 weeks or more gestation is required by statute. Since May 1981, the institution where the delivery occurs has the responsibility for filing a fetal death certificate if the delivery results in a fetal death. Fetal death certificates are to be registered by the fifth day after the delivery and before disposition of the remains.

Most deliveries (99%) occur in hospitals and women who miscarry unexpectedly at 20 weeks or more are usually taken to a hospital if they are not already there. Funeral directors are responsible for checking that a fetal death certificate has been filed for all such dispositions they handle.

#### Limitation of Small Numbers

All statistics are subject to chance variation. Such random variation in a large number of events has little effect on the data for the group; however, random variation in a small number of events may result in a startling change in the data for the group. For example, minor differences in the number of births or deaths in small populations or in the number of deaths from uncommon causes may result in large changes in these rates. Rates for areas of small population or for events with few occurrences should be interpreted with this limitation in mind.

#### Cause of Death

Cause of death statistics are derived from the medical certification information required by law to be reported on the death or fetal death certificate by the attending physician or medical examiner. The medical certification item on certificates of death and fetal death has a provision for reporting three causes of death--immediate, intervening, and underlying, plus additional information related to the cause of death.

The cause of death selected for coding and tabulating mortality statistics is the "underlying cause of death," which is generally defined as the disease or injury which initiated the sequence of morbid events leading directly to death.

Occasionally death certificates are registered with the cause of death information incomplete, inconsistent, or equivocal, and additional information from the center is not available. In such cases, selection and modification rules are used to select the underlying cause of death for statistical purposes. Selection and modification rules which adapt the coding procedures to reporting practices in the United States are published by the Public Health Service, National Center for Health Statistics, in annual editions of the Vital Statistics Instructional Manual.

The Eigth Revision of the International Classification of Diseases was used to code the underlying cause of death on Utah's death certificates for data years 1968 through 1978. The Ninth Revision of the International Classification of Diseases was used to code the underlying cause of death in Utah for data years 1979-1998, and the current Tenth Revision was used to code the 1999-2003 data in this report.

Comparability ratios between revisions are computed by the National Center for Health Statistics and are published in Utah's Vital Statistics: Births and Deaths, 1980 for the earlier revision and can be found on our web site as described in the preface of this publication for the new and current version. Comparability ratios for some cause of death codes show extreme variations and utmost caution should be taken in interpreting any cause of death trends that span the Eighth and Ninth Revisions<sup>2</sup> or the Ninth and Tenth Revisions<sup>3</sup> of the International Classification of Diseases.

# Geographic Bases

Birth and death data can be presented by place of occurrence of the event or by place of usual residence of the individual. For deaths, "place of residence" for the decedent is defined as the usual residence of the decedent. For births, "place of residence" for the child is defined as the usual residence of the mother.

Reallocation of birth and death certificates to the state of residence has been virtually complete on a nationwide basis since 1955. This is made possible by a cooperative program among the states for exchange of copies of certificates of non-resident events for statistical purposes only.

For analytical purposes, sometimes it is meaningful to tabulate accidental deaths by place of occurrence rather than by place of residence. Statistical tabulations of accidental deaths "by place of occurrence" refer to the place where the death occurred, and not the place where the accident occurred. A hypothetical example may help to clarify the above explanation. Assume that a resident of Denver, Colorado is involved in a motor vehicle accident in Wendover, Nevada and requires emergency aid of a special nature. The closest available facility is the Tooele Valley Hospital in Tooele, Utah. After arriving at the hospital, the patient succumbs to conditions arising from the accident. In such cases, the "place of occurrence" of the death for statistical purposes would be Tooele, Utah, not Wendover, Nevada; however, there can also be a table of accidental deaths by place where the accident occurred, In this example, the death would be classfied as an accidental death to a non-resident which occurred in Utah. The place where the accident occurred would be out-of-state (Wendover, Nevada).

#### Race/Ethnic Origin

The Utah Department of Health began tabulating birth data by race of mother in the 1990 data year. Prior to 1990, birth data was tabulated by race of infant.

This change corresponds to the 1989 revision of the Utah birth certificate. Caution should be used when comparing the racial classification of birth data prior to 1990 with data collected in 1990 and later. An explanation of the factors that brought about the racial classification change of birth data and the problems of analyzing the trend data is available in Utah's Vital Statistics Annual Report: 1990.

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<sup>&</sup>lt;sup>1</sup> Utah State Legislature; Utah Code and Constitution/Title 26 -- Utah Health Code Sections 26-2-1 through 26-2-28 (Utah Code Annotated, 1953); Laws/Constitution web site www.le.state.ut.us.

<sup>&</sup>lt;sup>2</sup> National Center for Health Statistics, "Estimates of selected comparability ratios based on dual coding of 1976 death certificates by the Eighth and Ninth Revisions of the International Classification of Diseases"; Monthly Vital Statistics Report, Vol. 28, No. 11(S); February 29, 1980.

<sup>&</sup>lt;sup>3</sup> National Center for Health Statistics, (a) "Comparability of cause of death between ICD-9 and ICD-10: Preliminary estimates"; National Vital Statistics Report; Vol. 49, No. 2; 2001 and (b) "Deaths: Final data for 1999"; National Vital Statistics Reports: Vol. 49, No. 8; 2001.